

RECEIVED  
CENTRAL FAX CENTER  
MAY 17 2006

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.: 10/670,626

Customer No.: 23379

Applicant: Xiaodong Wang &amp; Qinghua Liu

Confirmation No.: 6739

Filed: Sep 25, 2003

Group Art Unit: 1635

Docket No.: UTSD:1493

Examiner: Wollenberger, Louis V.

Title: R2D2: An Enzyme of RNA Silencing

DECLARATION UNDER 37CFR1.132

I, Prof. Qinghua Liu, declare and state as follows:


1. I am an Assistant Professor in the Department of Biochemistry at the University of Texas Southwestern Medical School. The Board of Regents of the University of Texas System is the assignee of this patent application. I have authored numerous scientific papers in the field of RNA enzymes, and I am a coinventor of this patent application.
2. The recited Dicer protein comprises a well-known family of large non-canonical RNase III enzymes (e.g. Bernstein, et al., Nature 409, 363-6, 2001). Specification, p.1, lines 25-26. Recombinant Dicer proteins have been used to make siRNA; see, Myers et al., 2003, Nature Biotechnol 21, 324-8; Beach et al., 2003, US Pat Appl Publ US2003/0084471; Zhang et al., 2002, EMBO J 21, 5875-85; and Dicer-based siRNA generation kits are commercially available (Gene Therapy Systems, Inc., San Diego, CA, Catalog No.T51001). Specification, p.2, lines 5-8. The recited Drosophila R2D2 protein is a well-known, art-recognized protein, for which the Specification provides a Genbank Accession No. (Specification, p.2, lines 10-11).
3. Those skilled in the art would have no trouble substituting one known Dicer protein for another in the assay. As the claims require that the recited complex cleave the dsRNA into siRNA, the claims require a Dicer protein functional in the recited method. To practice the

method with additional, alternative Dicer proteins, the skilled practitioner needs to do no more than routine screening, using the recited method itself, to confirm that the candidate protein is operative in the method.

4. In my opinion, those skilled in the art recognize the scope and meaning of the art-recognized, recited Dicer and Drosophila R2D2 proteins, and the Specification provides adequate written description to convey to a skilled person that applicants had indeed invented the claimed method of making siRNA. Furthermore, in my opinion, the Specification provides adequate description to enable one skilled in the art to recognize the scope and meaning of the recited Dicer and Drosophila R2D2 proteins, and to practice the invention without undue experimentation.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful, false statements may jeopardize the validity of the application and any patent issuing therefrom.

Date: 5-17-6

  
Assist Prof. Qinghua Liu